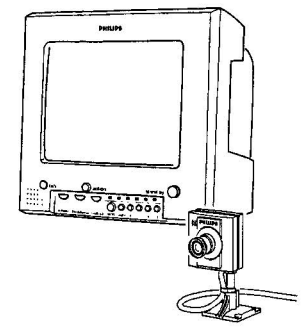
Philips Observation System

VSS2285/00T

VS22805T
VS22855T

Service
Service
Service



NORTH-AMERICAN MODELS:
Service Manual: 8047

Service Manual

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

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PHILIPS

1. System configuration.

This Philips Observation Systems (P.O.S.) consists of:

System:	**VSS2285/00T**	**VS22805T**	**VS22855T**
B/W system monitor	VM8	VM8	VM8 VM4933
Video Camera (incl. 25 m. cable)	VCM8935/00T VM3869	VC89755T	VC89355T
Accessories are:			
Intercom box	VSS2901/00	VSS29010	VSS29010
Alarm box	VSS2902/00	VSS29020	VSS29020
Interface box	VSS2903/00/01	VSS29035	VSS29035
Cable extension set	VSS2904/00/01	VSS29045	VSS29045
Action box	VSS2905/00	VSS29050	VSS29050
Extra camera	VCM8935/00T	VC89755T	VC89355T
Slave monitor	VSS4480/00T	VS44805T	VS44805T
Protective camera housing	VCM1152	VCM1152	VCM1152

2. Survey of service manuals:

VM8 - B/W-monitor	4822 727 20396
VCM8935/00T - VC89355T - VC89755T	4822 727 20395
VSS2901/00 - VSS29010	4822 727 20389
VSS2902/00 - VSS29020	4822 727 20391
VSS2903/00/01 - VSS29035	4822 727 20392
VSS2904/00/01 - VSS29045	4822 727 20393
VSS2905/00 - VSS29050	4822 727 20394
VSS4480/00T - VS44805T	4822 727 20397
VM8- Circuit Description	4822 727 20401

3. System function / features.

System functions;
Next to being extremely easy and ready to install by means of the ordinary everywhere obtainable telephone cable, this new universal B/W "Philips Observation System" has been designed for those users whose needs for observation, surveillance and monitoring required additional features.
When combined with the many available accessories, this system can function as;
- observation system
- intercom system
- alarm system
- action trigger system, all supported with vision and sound.

System features;
The B/W monitor is the heart of the Philips Observation system with:
. 4 system camera in/outputs for audio/video, alarm and action.
. VCR audio/video in/output
. Slave monitor audio/video output
. Alarm output

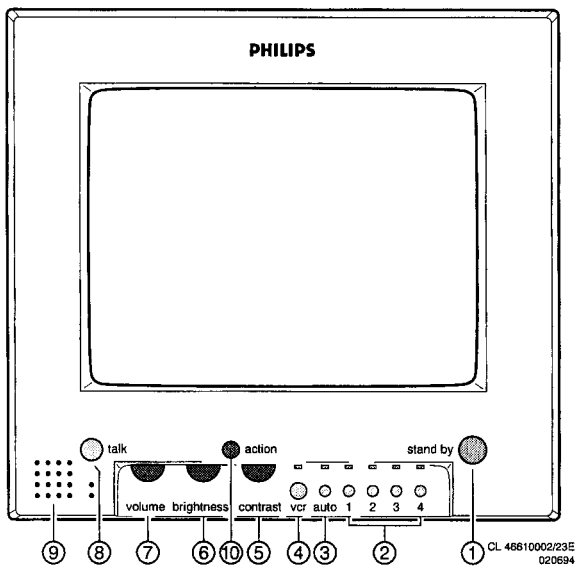
Further build-in feature are:
. camera instant on
. Manual camera selection
. Auto-sequence camera selection with time adjustment
. VCR replay, last selected camera signal present at VCR output
. Automatic recognition of connected cameras at power-up
. Monitor audio/video stand-by mode, ensures continuous functioning of the system
. System wiring diagnosis and short-circuit protection
. Prepared for alarm, action and intercom functions which are optionally available.

4. System expansion

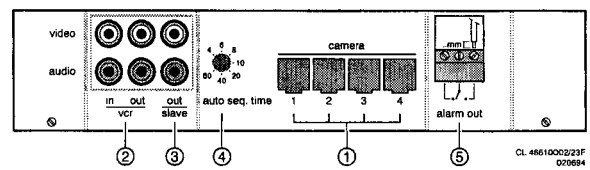
The system can be functionally expanded with several optionally available accessory boxes. By simple placing these in series with each camera channel it provides:

- Intercom, with doorbell function.
- Alarm, with in/out function switchable (on/off) for each separate camera.
- Action, with triggering a remote action in the active camera line by triggering the relay in the action box.
- Slave monitor, with loopthrough capability to expand the system by additional extra monitors.
- Interface adapter, allows to connect Philips RF cameras or any standard B/W/ camera with a VBS signal output.
- Cable extension set, to enlarge the distance upto 400 m.
- Extra cameras

5. Controls and connections

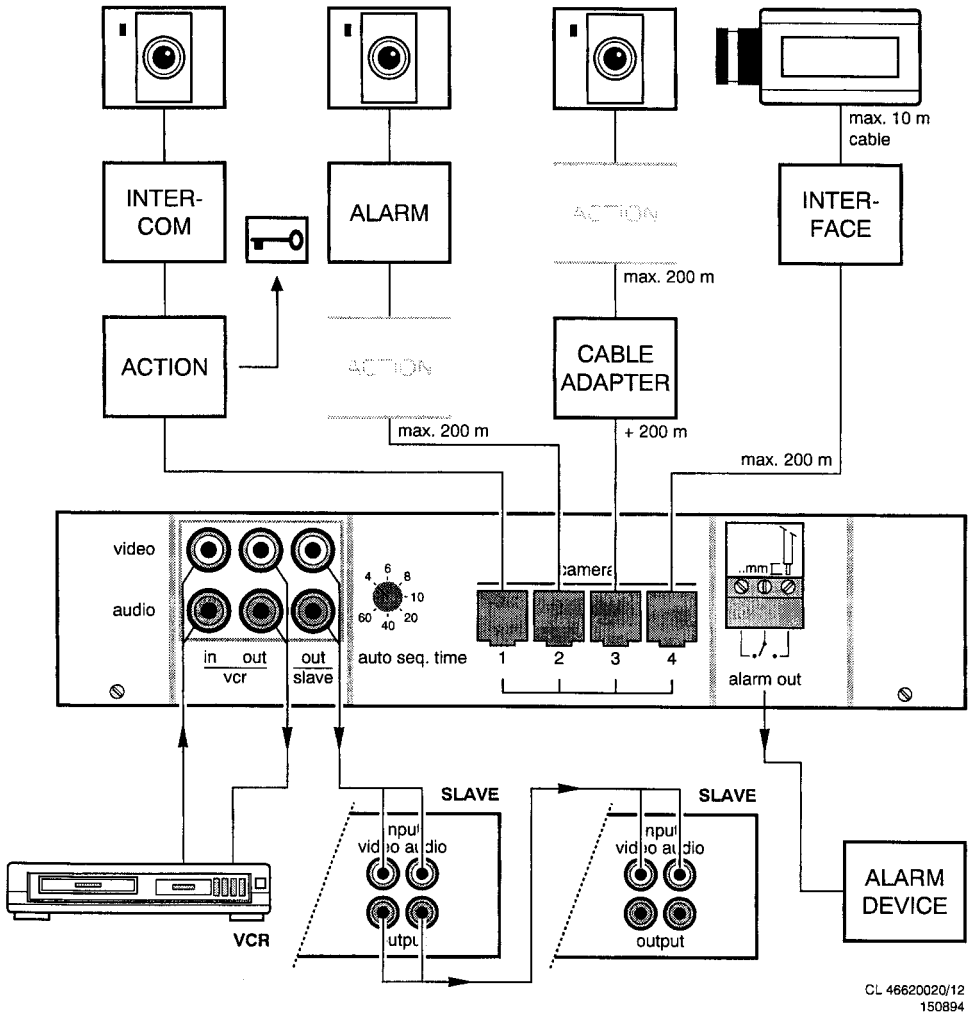


1. Stand-by knob
2. Brightness knob
3. Contrast knob
4. Volume knob
5. Camera selection keys
6. Auto sequence knob
7. VCR playback mode knob
8. Talk knob (for the intercom)
9. Loudspeaker
10. Action knob



1. Camera connection block
2. VCR input / output
3. Slave output
4. Auto sequence selector
5. Alarm output block

6. Connection possibilities



7. Direction for use

If the fitted plug is not suitable for your socket outlets, it should be cut off and an appropriate plug fitted in its place.

Cut the mains plug from the lead. Strip the sheating so the wires will become free for the necessary length to connect the UK-mainsplug (not supplied).

The wires in the mains lead are coloured according to the following code:

BLUE - NEUTRAL
BROWN - LIVE

If the mains plug (or adapter) contains a fuse, the value of this fuse should be 3 Amp. Alternatively, if another type of plug (not fused) is used, the fuse at the distribution board should not be greater than 5 Amp. If the colours of the wires in the mains lead do not correspond with the coloured markings identifying the terminals, proceed as follows:

- The BLUE wire should be connected to the terminal marked "N" or coloured black.
- The BROWN wire should be connected to the terminal marked "L" or coloured red.

Before replacing the plug cover, make sure that the cord grip is clamped over the sheath of the lead - not simply over the two wires.

Warning: ⚠

When a camera or accessory is connected or disconnected, the monitor should always be disconnected from the mains supply.
Only operating the **stand-by** key is not sufficient.

Monitor

Stand-by: By pushing the **stand-by** button (fig. A-1) the image and sound on the monitor can be switched on and off.

Brightness/contrast: By means of the **brightness** (fig. A-6) and **contrast** knob (fig. A-5) the picture can be adjusted to your personal preference or to the surrounding conditions.

Volume: By means of the **volume** knob the sound level can be adjusted (fig. A-7).

Talk: This button is only functional in combination with an intercom box (optional).

By pushing the **talk** button (fig. A-8) the built-in microphone (fig. A-9) of the monitor is switched on. The sound of the microphone can be reproduced by means of the intercom box.

7. Direction for use

Action: This button is only functional in combination with an action box.

By means of the **action** button (fig. A-10) it is possible to activate an action box. This can, for instance, be used to open a door remotely.
The **action** box remains active for as long as the button is pushed in.

Auto Sequence: When you have enlarged the system with several cameras, you can have the pictures switch automatically and continuously from one camera to another by means of a preset interval time.

By pushing the **auto** button (fig. A-3) the automatic sequence function is started up. The automatic sequence interval time **(auto seq.time)** can be adjusted between 4 and 60 seconds on the back of the monitor (fig. B-4).

In order to switch back to manual operation you only have to push one of the camera preference buttons or the vcr button.

Camera selection: A maximum of 4 cameras can be connected to the monitor. Choosing the camera in question is done by means of camera selection keys **1, 2, 3 and 4** (fig. A-2), (these numbers correspond with the camera inputs). When one of these buttons is pushed in, the corresponding camera is selected and the appropriate LED lights up.
When the button of an unused inlet is pushed in, a short bleep will sound. The last-chosen camera input remains active.

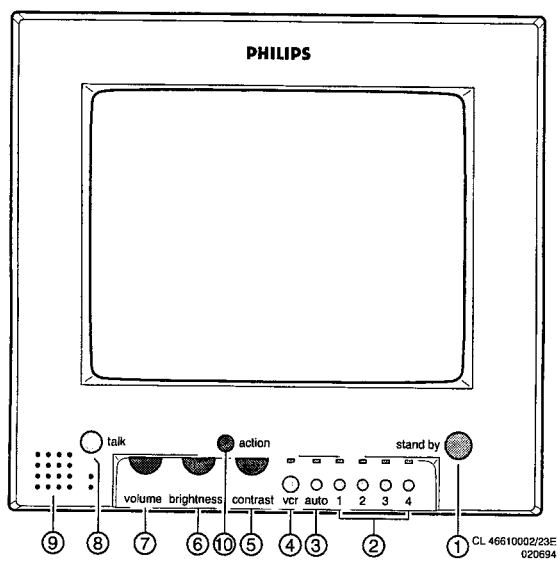


Figure A

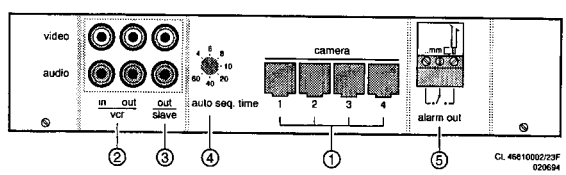


Figure B

VCR: By means of this button (fig. A-4) the monitor is switched to playback mode. The VCR-LED will light up. The signal which is supplied at the VCR input on the back of the monitor (fig. B-2) will sound.

Alarm

An alarm is possible in case of:
- a break or short circuit in the camera line.
- if this is detected by an alarm box (optional).

When there is an alarm:
1) The camera input in question is automatically switched to. If the automatic camera sequence is active, it will be stopped.
2) The corresponding camera LED will start to blink.
3) The built-in alarm buzzer will be audible for 15 seconds.
4) The alarm contact (fig. B-5) is changed over for a maximum of 3 minutes. The alarm contact can activate a video recorder, siren or telephone selector.

Alarm programming: If required, an alarm box in a particular camera line can be switched off. This may be necessary to disconnect the alarms of a door contact or movement detector during the daytime. However, the cable detection remains active at all times.

Push the **auto** key and on the camera selection key **4** monitor simultaneously (push always first the **auto** key, hold it and then camera selection key **4**). The camera LEDs on the monitor, the alarm function of which is active, will light up. The **auto** LED will blink fast.
Push the corresponding camera selection button, the alarm of which has to be switched on or off (led on = alarm on, led off = alarm off).

If all camera lines are set, the programme can be stopped by pushing the **auto button**. The monitor will return to the status it had before programming.
Automatic alarm status termination:
After 3 minutes the monitor returns to the status it was in prior to the moment the alarm went off.
If the automatic camera sequence was active, it will be continued.

Premature alarm status termination:
Pushing any key on the control panel of the monitor within 3 minutes will end the alarm status; the alarm output (fig. B-5) will be de-activated. If the buzzer is still active at that moment, it will be stopped.
However, the corresponding camera LED remains blinking for as long as the alarm line is active (alarm detector is still active) or the interruption / short circuit is still present.

Alarm priority:
A new alarm always gets priority. The monitor will always switch to the camera of the last-received alarm but let the LED(s) of each previously received alarm blink faster.

Intercom box (Optional)

When the **talk** button is pushed, the sound of the monitor's microphone is reproduced by the intercom box (fig. E), which can be installed in the camera-monitored area.

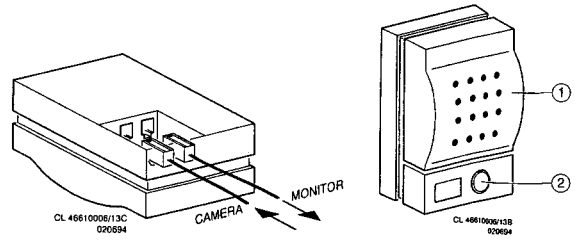


Figure E

In the same way the sound of the intercom box microphone (fig. E-1) (plus that of the camera, if not switched off) is reproduced by the monitor. This is a particularly practical function when the system is used a lot for access surveillance, for instance.

Doorbell: There is a push button (fig. E-2) on the intercom box, which can be used as a doorbell. When the button is pushed, a buzzer will sound at the monitor, after which the picture is switched to the corresponding camera. If the automatic camera sequence is active, it will be stopped.
If the system operator does not react within 1 minute to the warning signal by pushing any random button, the monitor will return to its previous status, or the automatic camera sequence is continued.

Action box (Optional)

By means of an action box it is, for instance, possible to open a door remotely. By pushing the **action** key (fig. A-10) on the monitor, the make and break contact in the action box (incorporated in the line of the camera that is active at that moment) is activated.
If the automatic camera sequence is active, it will be stopped at the camera input in question.

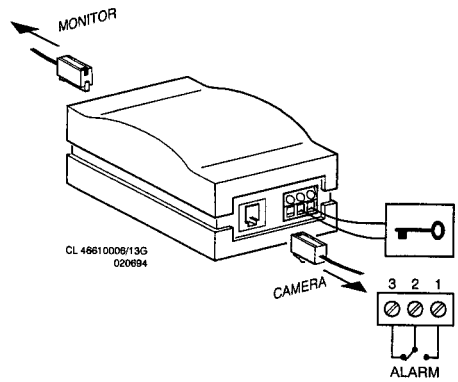


Figure G

Alarm box (Optional)

Different kinds of detectors, with make and break contact (fig. F) according to choice, can be connected to the alarm input of an alarm box, such as infrared detectors, magnetic contacts. When an alarm is detected, the alarm contact in the monitor is activated (fig. B-5).

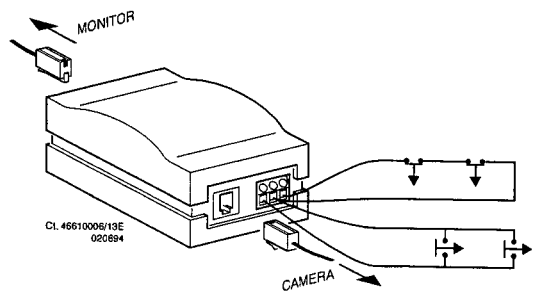


Figure F

Cable extension adapter (Optional)

A cable extension adapter can be used to extend the system cable once again by 200 meters (or 150 meters for colour) and to see to the necessary cable compensation. The box is provided with a loose mains voltage adapter of +24V, which is standardly supplied.

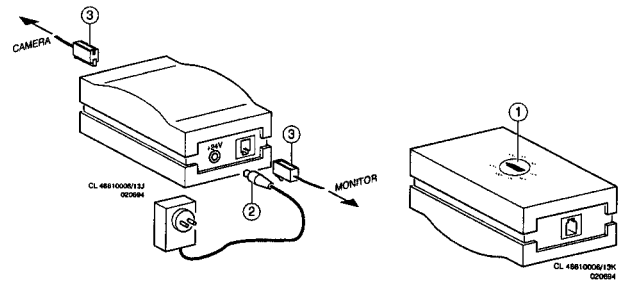


Figure H

In order to optimize the quality of the picture, the rotary switch (fig. H-1) at the bottom of the box should be set by means of a coin. This rotary switch with 9 positions should be set to the **total** cable length between camera and monitor, see table. If necessary, you should temporarily use an intercom box to adjust the optimum picture by means of the operator.

Position	Total length between camera and monitor
1	off
2	up to 50 m
3	up to 100 m
4	up to 150 m
5	up to 200 m
6	up to 250 m
7	up to 300 m
8	up to 350 m
9	up to 400 m

Incorporate the box in the desired camera line by means of the supplied cable (see figure H-3). Connect the mains supply adapter to the box (fig. H-2) and to the mains supply.

Camera interface box (Optional)

If existing cameras in the system, which are equipped with a CVBS (BNC-plug) or RF (T.V.-plug) for coax cable, have to be connected, this can be done by using an interface box.

The interface box is used as transition from the coax cable to the system cable and as adapted power supply for RF-cameras with TV channel 3 and 4 setting.

Connect the camera with the CVBS (BNC-plug) or RF (T.V.-plug) to the corresponding input (fig. J-1) of the camera interface box. Select the input in question on the box by means of the switch (fig. J-2).

Connect the system cable with the output of the camera interface box.

Remark: The length of the cable between camera and interface box should not exceed 10 meters.

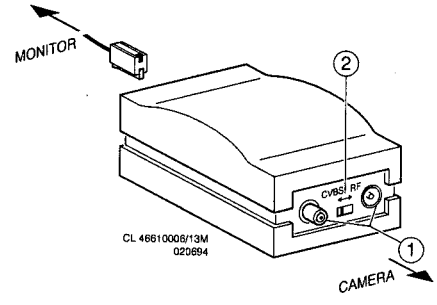
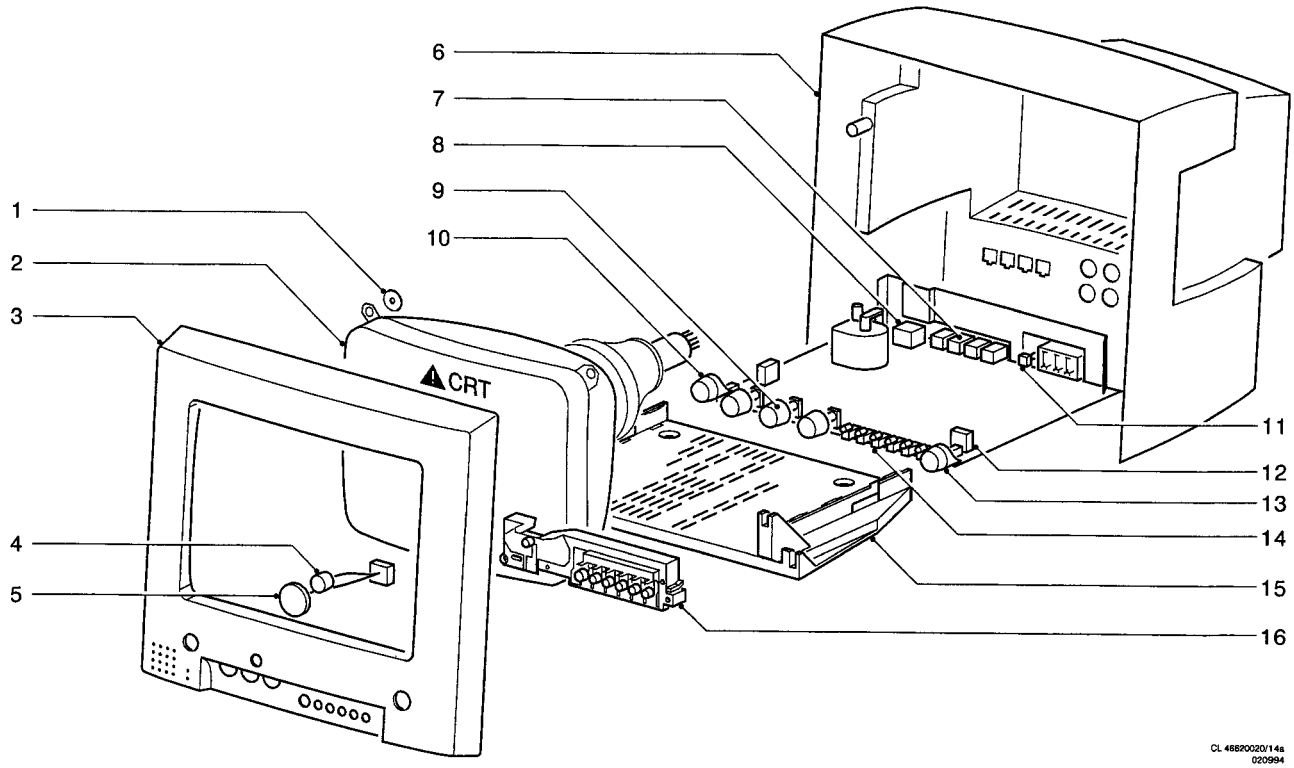
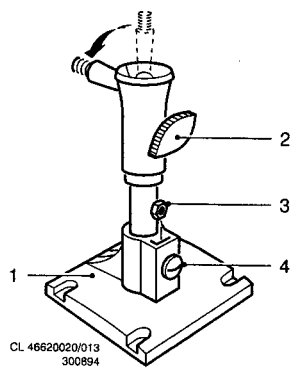


Figure J

8. Spare parts lists



POSITION NUMBER	SERVICE CODE	DESCRIPTION
1	5322 401 11314	Bracket (4*)
2 σ	4822 131 20473	Picture tube
3	4822 430 10492	Cabinet front assy VSS2285/00T
3	4822 430 10493	Cabinet front assy VS228.5T
4	4822 242 30176	Microphone (1002)
5	4822 240 30725	Speaker (1101)
6	4822 438 10473	Rear cover
9	4822 413 41882	Knob potmeters (3*)
10	4822 410 63486	Knob talk
11	4822 413 41883	Knob sequence
13	4822 410 63485	Knob stand-by
15	4822 435 60076	Cabinet bottom part
16	4822 410 63484	Knob frame
	Various:	
	4822 321 11081	Mains cord Europe
	4822 321 11084	Mains cord USA
	4822 321 62697	Camera cable 25 meter
12	4822 290 60626	2 pins mains-connector (female)



POSITION NUMBER	SERVICE CODE	DESCRIPTION
1	4822 462 10507	Tripod assy- grey
1	4822 462 10516	Tripod assy- black
2	4822 413 41884	Knob for tripod- grey
2	4822 413 41885	Knob for tripod- black
3	4822 505 10665	Lock nut M5 for tripod
4	4822 502 21582	Screw M5*8 for tripod

Service
Service
Service

OP01 95.01

Service Information

NORTH-AMERICAN MODELS:
Service Manual: 8054 Supl. 1

This service info covers all following types & versions of the VM8 Observation monitor family:
VM8-Monitor (manual 4822 727 20396)
VSS2285/00T, VSS2286/00T
VS22805T, VS22855T
22MS855R

The circuit diagrams and the Printed Wire panels have been adapted to the modifications introduced during the production.

The circuit diagrams are updated with the modifications introduced till factory code **OP01**...

Besides the updated circuit diagrams also the complete updated spare parts lists is given in this service information.

Contents

Item	*Description*		*Page*	
1.	List of changes		2	*PWB*
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3.	Picture/defelction	Diagram B	7	5
4.	Power supply/controls	Diagram C	8	5
5.	Electrical parts list		9	

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List of changes

List of changes introduced during the production, chronological per **A..** code/production week.

Introduction:		*Item:*	*Service code:*
OP.. 9434	Changed	3118 from 22 kΩ into 18 kΩ	4822 116 52251
		3412 from 68 kΩ into 47 KΩ	4822 116 52284
		3413 from 39 kΩ into 68 KΩ	4822 116 52297
		3437 from 3,3 kΩ into 6,2 KΩ	4822 116 52293
		3511 from 3 kΩ into 3,3 kΩ	4822 116 52269
		3706 from 1,8 kΩ into 1,2 kΩ	4822 116 52207
		3709 from 22 kΩ into 22 kΩ	4822 050 22203
	Added	3402 100 kΩ between E-7121 and earth	4822 116 52234

Introduction:		*Item:*	*Service code:*
OP.. 9441	Changed	The jumpers 9815,9816,8917,9818,9819,9820,9821 and 9822 replaced by resistors of 220 R Electrical position numbers: 3907,3906,3904,3905, 3902,3903,3900 and 3901. The P.W. board lay-out will **not** changed for the time being !!!	4822 116 52215
OP.. 9436	Changed	7150 from MC78M05CT into L78M05CV	5322 209 86445
		1910 from 2422 540 98256 into	4822 242 81965
OP.. 9507	Changed	2520 form axial into unidirectional version	4822 121 43101
OP.. 9439	Added	EHT-cable assy (included in EHT)	4822 320 20215

Introduction:		*Item:*	*Service code:*
OP.. 9439	Changed	7875 from fictive 12 NC into programed µPC	4822 209 33885

Introduction:		*Item:*	*Service code:*
OP.. 9439	Changed	2100 from 330 nF into 330 nF-250V	5322 121 44222

Remark: this change is already included in the service manual 4822 727 20396 !

Introduction:		*Item:*	*Service code:*
OP.. 9439	Changed	2111, 2150, 2319, 2815, 2817, 2830, 2832, 2835, 2837, 2842, 2847, 2848, 2849, 2901, 2913 from 22 nF into 22 nF	4822 122 40606
		2113, 2114, 2513, 2706 from 1 nF into 1 nF	4822 122 33302
		2136 from 470 pF into 470 pF	4822 126 10334
		2416, 2500, 2501, 2843, 2846 from 4,7 nF into 4,7 nF	4822 126 13462
		2418 from 10 pF into 680 pF	4822 126 13461
		2502 from 680 pF into 680 pF	4822 126 13461
		2521 from 220 pF into 220 pF	4822 122 33299
		6160 from BYD33G into BYD74C	4822 130 80915

Remark: this change is already included in the service manual 4822 727 20396 !

Introduction:		*Item:*	*Service code:*
OP.. 9439	Changed	3413 from 68 kΩ into 56 kΩ	4822 116 52291
		6707 becomes 6709 BAV21	4822 130 30842
		1001 loudspeaker changed of supplier	5322 240 30587
		Mains knob 22MS855R changed into	4822 410 63488
		Talk knob 22MS855R changed into	4822 410 63489
	Added	3961 47 kΩ between ... and	4822 116 52284
		jumer 9893 inserted for Kit 2 only	

Introduction:		*Item:*	*Service code:*
	Changed	7875 from version /J548 into version /J554	4822 209 33972
OP.. 9439		For 22MS855R	
OP.. 9445		For the other types	

List of changes

Introduction:		*Item:*	*Service code:*
OP.. 9444	Changed	Mainscord colour changed	4822 321 11084

Introduction:		*Item:*	*Service code:*
OP.. 9445	Changed	Knob frame adapted (knobs are painted) The service code remains the same !	

Introduction:		*Item:*	*Service code:*
OP.. 9450	Changed	3416 from 33 kΩ into 39 kΩ 3420 from 12 kΩ into 56 kΩ	4822 116 52277 4822 116 52291

Introduction:		*Item:*	*Service code:*
OP.. 9507	Changed	2820 from 100 nF into 100 nF-50V 2841 from 100 nF into 100 nF-50V 2845 from 100 nF into 100 nF-50V	4822 126 13065 4822 126 13065 4822 126 13065

Introduction:		*Item:*	*Service code:*
OP.. 9507	Changed	1910 from 2422 540 98256 into	4822 242 81965

Introduction:		*Item:*	*Service code:*
OP.. 9511	Changed	3108 from horizontal into vertical 3150 3433 3528 3550 3853 3881	4822 052 10338 4822 052 10109 4822 052 10478 4822 052 10159 4822 052 10159 4822 052 10229 4822 052 10229

Introduction:		*Item:*	*Service code:*
OP.. 9513	Changed	3103 NTC from supplier's code	4822 116 30478

Introduction:		*Item:*	*Service code:*
OP.. 9520	Changed	CRT socket from 3106 108 72931 into	4822 255 70167

Introduction:		*Item:*	*Service code:*
OP.. 9524	Changed	2121, 2159, 2204, 2292 from 10 nF into 10 nF 4822 121 41857 2291 from 22 nF into 22 nF 2710 from 47 nF into 47 nF	 4822 121 41856 4822 212 43526

Introduction:		*Item:*	*Service code:*
OP01 9525	Changed	P.W. Board panel from 3122 163 3159.**2** into 2100 from 330 nF into 330 nF-275V 2133 from 100 pF into 100 pF-1kV 2160 from 470 pF into 470 pF-500V 2161 from 220 µF into 1000 µF 2416 from 4,7 nF into 2,2 nF 2418 from 68 pF into 220 pF 2801 from 1 µF into 47 µF 2820 from 100 nF into 100nF 2833 from 15 pF into 12 pF 2841 from 100 nF into 100 nF 2845 from 100 nF into 100 nF 2851 from 100 nF into 100 nF 3175 from 120 k into 1 k 3183 from 2R2 into 2,2 R (safety) 3188 from 2R2 into 2,2 R (safety) 3193 from 2R2 into 2,2 R (safety) 3198 from 2R2 into 2,2 R (safety) 3412 from 47 k into 56 k	3122 163 3159.**4** 4822 121 70677 4822 126 13682 4822 122 33646 5322 124 41468 4822 122 33531 4822 122 33299 4822 124 40433 4822 121 42007 4822 126 12825 4822 121 42007 4822 121 42007 4822 121 42007 4822 050 11002 4822 052 10228 4822 052 10228 4822 052 10228 4822 052 10228 4822 116 52291

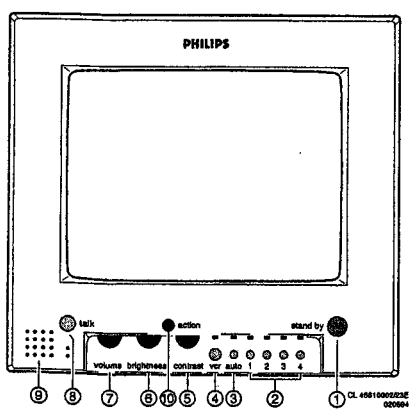
	3420 from 56 k into 47 k	4822 116 52284
	3808 from 47 k into 10 k	4822 116 83864
	3854 from 15 into 27	4822 050 12709
	3862 from 15 into 27	4822 050 12709
	5141 from 100µH into 100 µH	4822 157 60286
	5160 from 100µH into 100 µH	4822 157 60286
	6130 from 1N5060 into BYD14G	4822 130 82985
	6131 from 1N5060 into BYD14G	4822 130 82985
	7175 from BC548B into BSN10A	4822 130 63365
Delete	2847 22 nF	
	3102 10 MΩ	
	3900 220 R	
	3901 220 R	
	3902 220 R	
	3903 220 R	
	3904 220 R	
	3905 220 R	
	3906 220 R	
	3907 220 R	
	9899/9911 (kit 1 only)	
Added	2137 100 µF	4822 124 41525
	2432 3,3 nF	4822 122 33532
	3179 1 k	4822 050 11002
	3864 10 k	4822 116 83864
	6175 BZX79/C10	4822 130 61219
	6820 BZX79/C10	4822 130 61219
	6821 BZX79/C10	4822 130 61219
	6827 BZX79/C10	4822 130 61219
	6828 BZX79/C10	4822 130 61219
	6834 BZX79/C10	4822 130 61219
	6836 BZX79/C10	4822 130 61219
	6841 BZX79/C10	4822 130 61219
	6846 BZX79/C10	4822 130 61219
	6536 BZX79/C6V2	4822 130 34167
	6832 1N4148	4822 130 30621

Remark: There is now a universal board for VM8 (Kit1/2 and B/W system.)

SURVEY OF THE VM8-KIT "OP.." CODES.

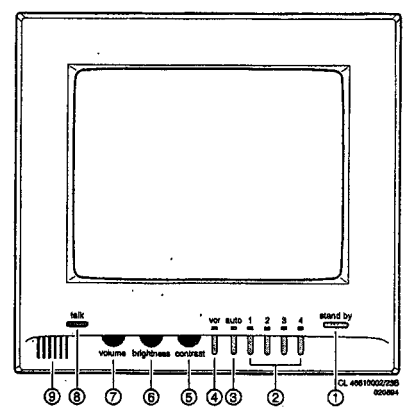
OP..:	*Introduction:*	*C.P. number:*	*Main reason:*
OP00	9439	---	Start production 22MS855R
OP00	9445	---	Start production VSS2285/00
OP00	9447	---	Start production VS22855T
OP00	9448	---	Start production VS22805T
OP00	9516		Start production VSS2286/00T
OP01	9525	37940	New lay-out **.4** version

VSS2285/00T, VS22805T, VS22855T



1. Stand-by knob
2. Camera selection keys
3. Auto sequence knob
4. VCR play-back mode knob
5. Contrast knob
6. Brightness knob
7. Volume knob
8. Talk knob
9. Loudspeaker
10. Action knob (optional)

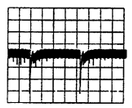
22MS855R

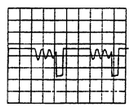


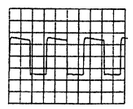
Electrical diagrams and P.W. Boards

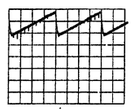
TP 1

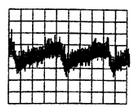
50V / div
5µs / div

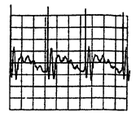
TP 10

2V / div
5ms / div

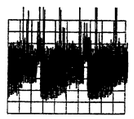
T 6

50V / div
5µs / div

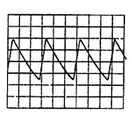
T 13

2V / div
20µs / div

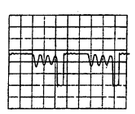
T 20

2V / div
5ms / div

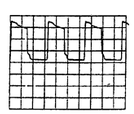
T 27

20mV / div
5ms / div

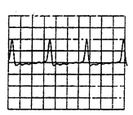
T 34

20mV / div
20µs / div

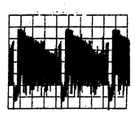
TP 2

20mV / div
5ms / div

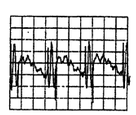
TP 11

2V / div
20µs / div

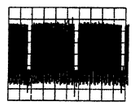
T 7

20V / div
5µs / div

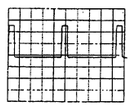
T 14

1V / div
20µs / div

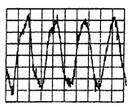
T 21

50mV / div
20µs / div

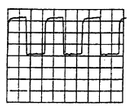
T 28

200mV / div
5ms / div

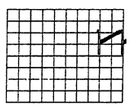
T 36

20mV / div
20µs / div

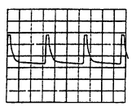
TP 3

20mV / div
5ms / div

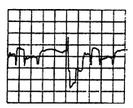
T 1

5V / div
5µs / div

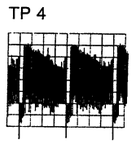
T 8

1V / div
500µs / div

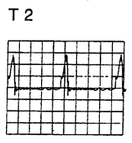
T 15

2V / div
20µs / div

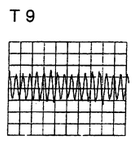
T 22

10V / div
10ms / div

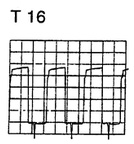
T 29

5V / div
20µs / div

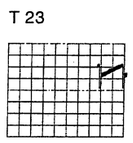
T 37

200mV / div
10µs / div

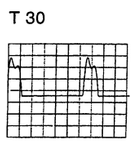
TP 4

200mV / div
5ms / div

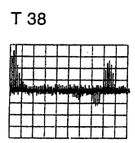
T 2

2V / div
5ms / div

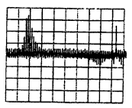
T 9

2V / div
500µs / div

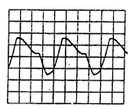
T 16

1V / div
20µs / div

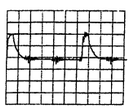
T 23

10V / div
10ms / div

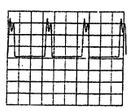
T 30

50V / div
10µs / div

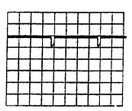
T 38

50mV / div
2ms / div

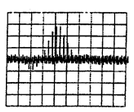
TP 5

50mV / div
2ms / div

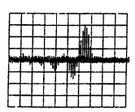
T 3

50V / div
5ms / div

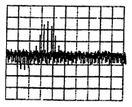
T 10

5V / div
10µs / div

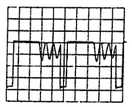
T 17

50V / div
20µs / div

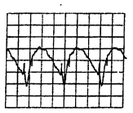
T 24

2V / div
5ms / div

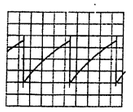
T 31

50V / div
1ms / div

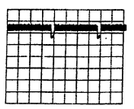
T 39

50mV / div
2ms / div

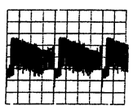
TP 6

50mV / div
1ms / div

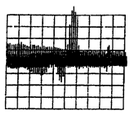
T 4

20V / div
5µs / div

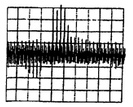
T 11

20mV / div
20µs / div

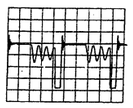
T 18

2V / div
5ms / div

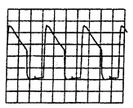
T 25

2V / div
5ms / div

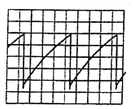
T 32

500mV / div
5ms / div

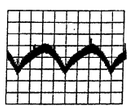
T 40

20mV / div
2ms / div

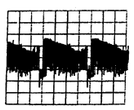
TP 7

20mV / div
1ms / div

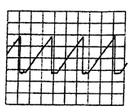
T5

100V / div
5µs / div

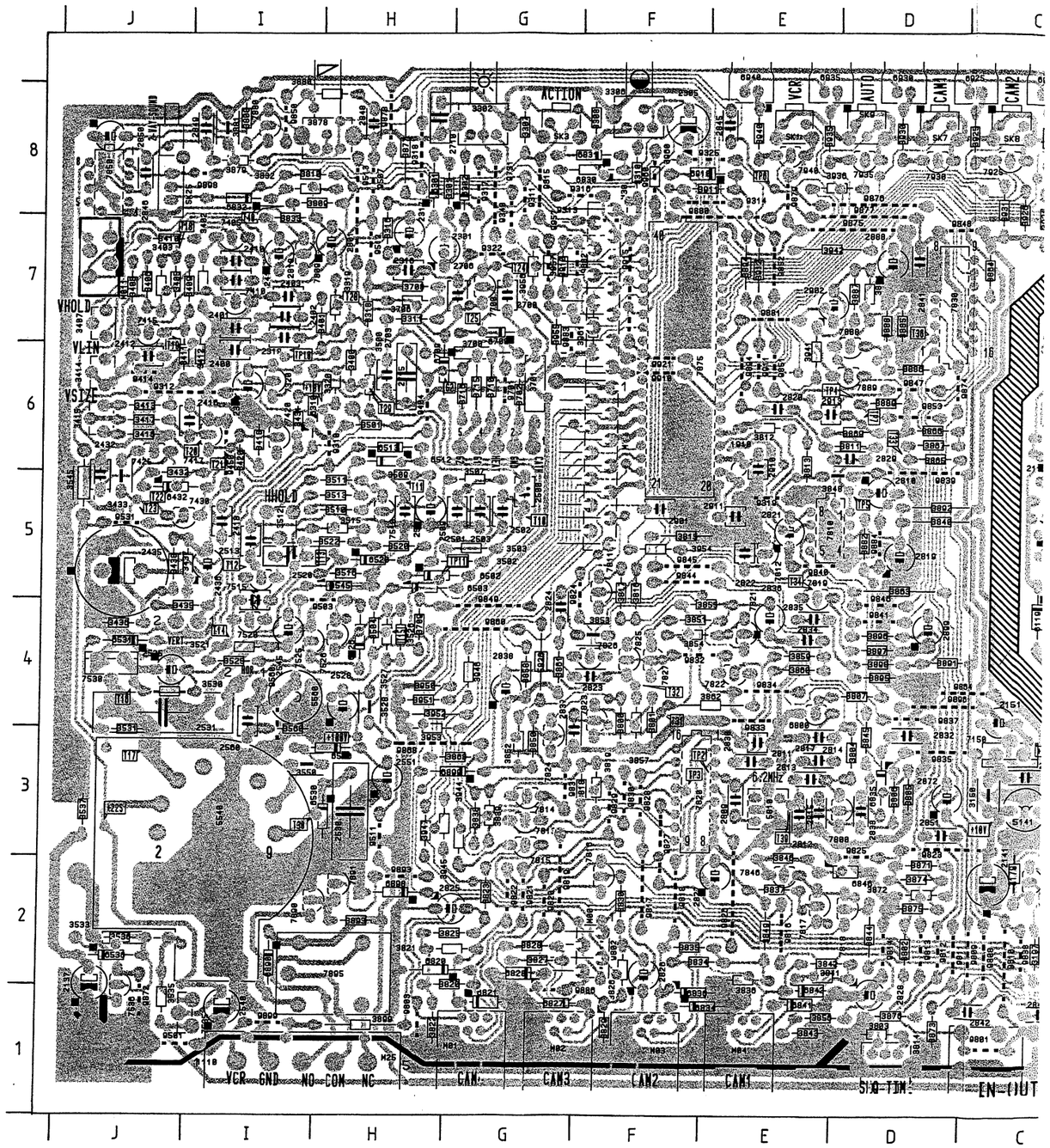
T 12

200mV / div
20µs / div

T 19

2V / div
5ms / div

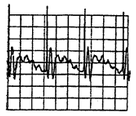
T 26

200mV / div
5ms / div

T 33

500mV / div
5ms / div

T 41

1V / div
10ms / div

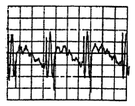


T 34



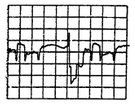
20mV / div
20µs / div

T 36



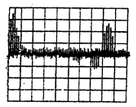
20mV / div
20µs / div

T 37



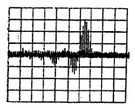
200mV / div
10µs / div

T 38



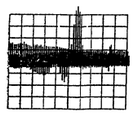
50mV / div
2ms / div

T 39



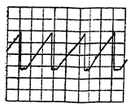
50mV / div
2ms / div

T 40

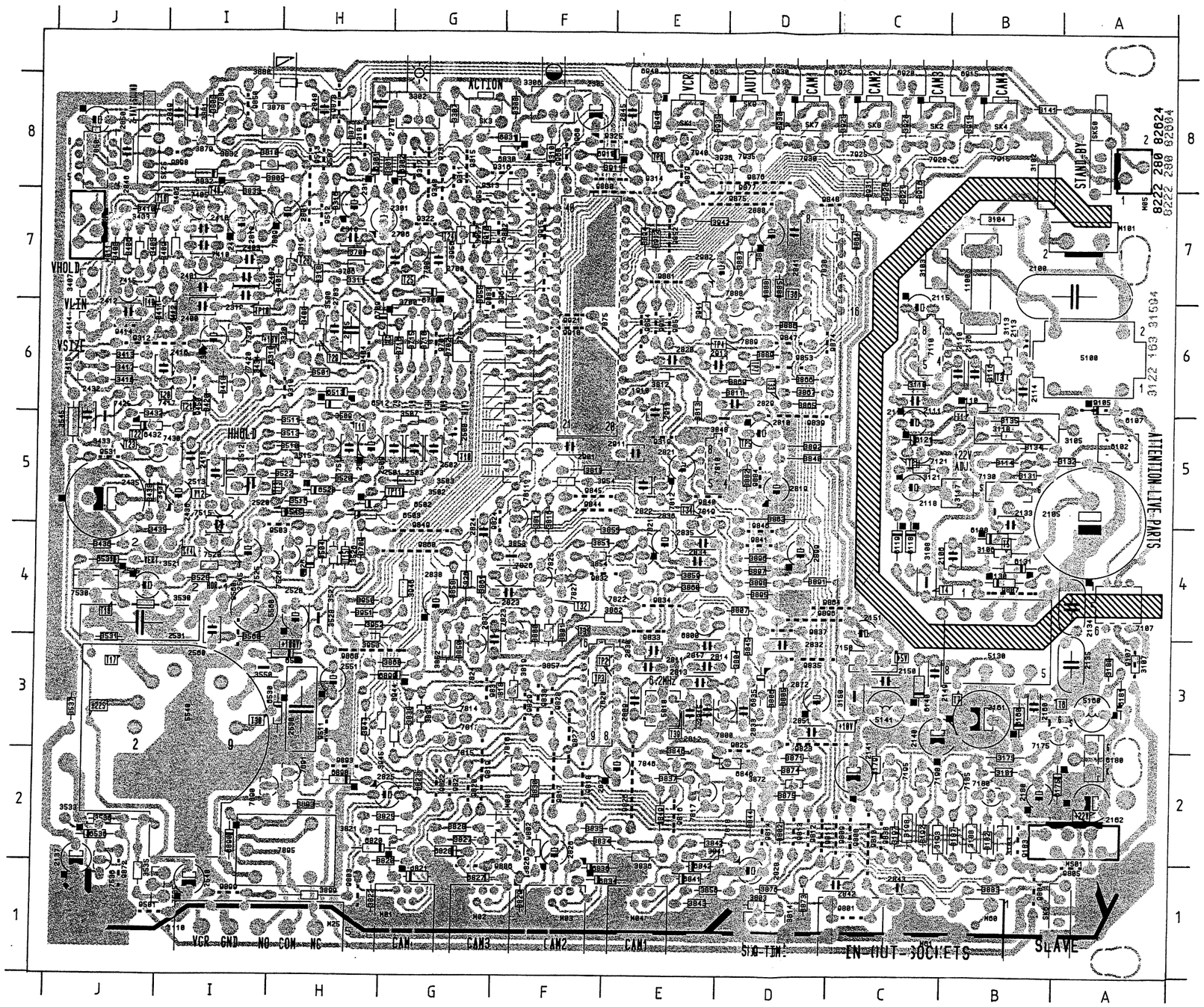


20mV / div
2ms / div

T 41



1V / div
10ms / div



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1910	E5	2830	E3	3420	I5	3842	D2	5130	B3	7535	I1	9821	G2
2100	A6	2832	D3	3431	I6	3843	E1	5141	C3	7536	J1	9822	G2
2105	A4	2833	D3	3432	J5	3844	D2	5160	A3	7700	G7	9823	D2
2106	B4	2834	E4	3433	J5	3845	D3	5540	I3	7800	D3	9824	F4
2110	B6	2835	E4	3435	I4	3846	E2	5560	I4	7809	I7	9825	D2
2111	C5	2836	E4	3436	J4	3848	D5	5810	E3	7810	E5	9826	E2
2112	C5	2837	F3	3437	I5	3849	E2	5826	G4	7811	F4	9827	F2
2113	B6	2838	G4	3438	J5	3850	G3	6102	A5	7812	E5	9828	F3
2114	B6	2841	D7	3500	H6	3851	F4	6107	A5	7813	G3	9829	F3
2115	C6	2842	C1	3501	H6	3852	G3	6108	B4	7814	G3	9830	F3
2118	C5	2843	C1	3502	G5	3853	F4	6110	B5	7815	G2	9831	G3
2133	B4	2845	E8	3503	G5	3854	F4	6118	C4	7816	F2	9832	E4
2134	A4	2846	J8	3504	H4	3855	E4	6119	C4	7817	E2	9833	E3
2135	A3	2848	H8	3507	G5	3856	E1	6121	C5	7818	D2	9834	E4
2136	B6	2849	I8	3509	H5	3857	F3	6130	B4	7819	E4	9835	D3
2137	J1	2850	J8	3510	H5	3858	G4	6131	B4	7820	F3	9837	D3
2140	B2	2851	D2	3511	H5	3859	E4	6140	C3	7821	E4	9838	C2
2141	C2	2872	D3	3512	I5	3860	E4	6160	B3	7822	E4	9839	D5
2149	C3	2888	D7	3513	H5	3861	G4	6175	A2	7823	F3	9840	E5
2150	C3	2899	D4	3515	H5	3862	E3	6180	A2	7824	G3	9841	D4
2151	C3	2901	F5	3516	H5	3863	D4	6181	A3	7825	F4	9844	F4
2160	B3	2902	D7	3520	H5	3864	C7	6301	H8	7826	F4	9845	F5
2161	B3	2910	E5	3521	I4	3865	D5	6302	G8	7827	F4	9846	D4
2162	A2	2911	E5	3522	H5	3866	D6	6310	I6	7830	D7	9847	D6
2180	B2	2913	E6	3525	I4	3867	D6	6432	J5	7846	E2	9848	D7
2301	H7	3102	B7	3526	H4	3868	G3	6502	H4	7850	J8	9849	G4
2305	F8	3103	C7	3527	H4	3869	D6	6503	H4	7875	F6	9850	I8
2316	H7	3104	B7	3528	H3	3871	D2	6512	H5	7880	I8	9851	E6
2317	H7	3105	B5	3530	J4	3872	D2	6513	H5	7888	D6	9852	E7
2319	I6	3106	B4	3531	J3	3873	D1	6520	H5	7889	D6	9853	D6
2320	I6	3107	A3	3533	J2	3874	D2	6526	H4	7890	H2	9860	G4
2400	I6	3108	C4	3535	J1	3875	D2	6530	H3	7891	H2	9864	C4
2401	I6	3110	C6	3536	J2	3876	D1	6531	J4	7895	H1	9868	H3
2402	I7	3113	B6	3537	J3	3877	H8	6536	J2	7915	B8	9872	J1
2403	I7	3114	B5	3545	J5	3878	H8	6545	H4	7920	C8	9874	D6
2410	I7	3116	B6	3550	I3	3879	I8	6550	H3	7925	C8	9875	D7
2411	I7	3117	B5	3560	I3	3880	H8	6700	G6	7930	D8	9876	D7
2412	J6	3118	B5	3700	G6	3881	I8	6709	G6	7935	D8	9877	D7
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2418	I5	3131	B5	3702	G6	3883	B1	6820	G1	9105	A5	9879	E7
2432	J5	3132	A5	3706	H7	3884	D7	6821	G1	9107	A3	9880	E7
2435	J5	3134	B5	3708	H7	3885	D6	6827	G1	9183	B2	9881	E6
2436	I5	3135	B5	3709	H4	3886	D6	6828	G1	9310	H6	9882	F7
2500	G5	3141	B8	3710	G6	3887	D7	6830	F8	9311	G7	9883	G6
2501	G5	3150	C3	3715	G6	3888	D6	6831	F8	9312	J6	9884	D5
2502	G5	3175	B2	3716	G6	3889	D6	6832	I7	9313	F7	9886	G1
2503	G5	3179	C2	3800	F3	3891	D4	6834	E1	9314	E7	9893	H2
2507	H5	3180	A3	3801	F3	3892	D5	6835	D3	9315	G8	9894	E6
2509	H5	3181	B2	3802	D2	3893	H2	6836	E1	9316	F7	9896	D3
2513	I5	3182	B2	3803	D1	3894	E7	6841	E1	9317	G8	9898	I8
2520	I5	3183	B2	3804	D3	3895	D4	6842	E1	9318	H8	9899	I1
2521	I4	3187	B2	3805	D3	3896	D4	6846	D2	9319	E5	9910	F6
2525	J4	3188	B2	3806	D3	3897	D4	6890	I1	9322	G7	9911	E6
2528	H3	3192	C2	3807	D4	3898	D4	6898	H2	9325	E8	9915	F7
2530	H3	3193	B2	3808	I8	3899	H1	6899	G3	9340	G7	9921	F6
2531	J3	3197	C2	3809	H7	3910	G7	6910	F8	9404	H6	9957	G7
2540	I1	3198	C2	3810	I8	3911	E8	6915	B8	9414	J6	9960	F8
2545	I4	3301	G7	3811	D6	3912	E7	6920	C8	9450	I5	M001	F2
2551	H3	3302	G8	3812	E6	3915	B8	6925	C8	9501	I1	M01	G1
2560	I3	3306	F8	3813	E5	3916	C7	6930	D8	9503	H4	M02	G1
2700	G7	3307	G8	3814	D1	3920	C8	6935	E8	9507	H8	M03	F1
2703	H6	3308	F8	3815	F5	3921	C7	6940	E8	9511	H2	M04	E1
2706	G7	3310	F8	3816	F4	3925	C8	7107	A4	9512	H7	M05	A8
2710	H8	3311	H6	3817	F4	3926	C7	7110	C6	9513	H7	M011	J7
2715	H6	3316	H7	3818	F3	3930	D8	7121	C5	9531	J5	M30	F7
2801	H7	3318	H7	3819	F3	3931	C7	7130	B5	9560	I3	M31	F5
2809	E3	3319	H7	3820	G1	3935	E8	7150	C3	9701	G6	M60	C1
2810	D5	3320	H6	3821	G2	3936	D8	7175	A3	9731	G7	M61	B1
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2812	E3	3401	H6	3823	G2	3941	E6	7185	B2	9802	F2	MS01	A2
2813	E3	3402	I7	3825	G2	3942	E7	7190	C2	9803	H1	SK1	E8
2814	E3	3403	J7	3826	F1	3944	G2	7195	C2	9804	B1	SK2	C8
2815	E3	3405	J7	3827	G2	3945	G3	7320	I6	9805	A1	SK3	G8
2817	E3	3406	J7	3828	G2	3946	G4	7405	I7	9807	B4	SK4	B8
2818	I7	3407	J6	3829	F1	3947	H3	7410	I7	9808	C2	SK6	A1
2819	D5	3408	J7	3830	F2	3950	H4	7415	J6	9809	C2	SK7	D8
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2821	E5	3410	J7	3833	I7	3952	H3	7420	I6	9811	D2	SK9	D8
2822	E5	3411	J6	3834	E2	3953	H3	7425	J5	9812	D2	SK25	J7
2823	F4	3412	I6	3835	F2	3954	F5	7430	I5	9813	D2	SK50	A7
2824	G4	3413	J6	3836	E1	3955	G6	7510	H5	9814	D2		
2825	G2	3414	J6	3837	E2	3956	G7	7515	I4	9816	E2		
2826	F1	3415	J6	3838	G3	3957	G7	7520	I4	9817	F2		
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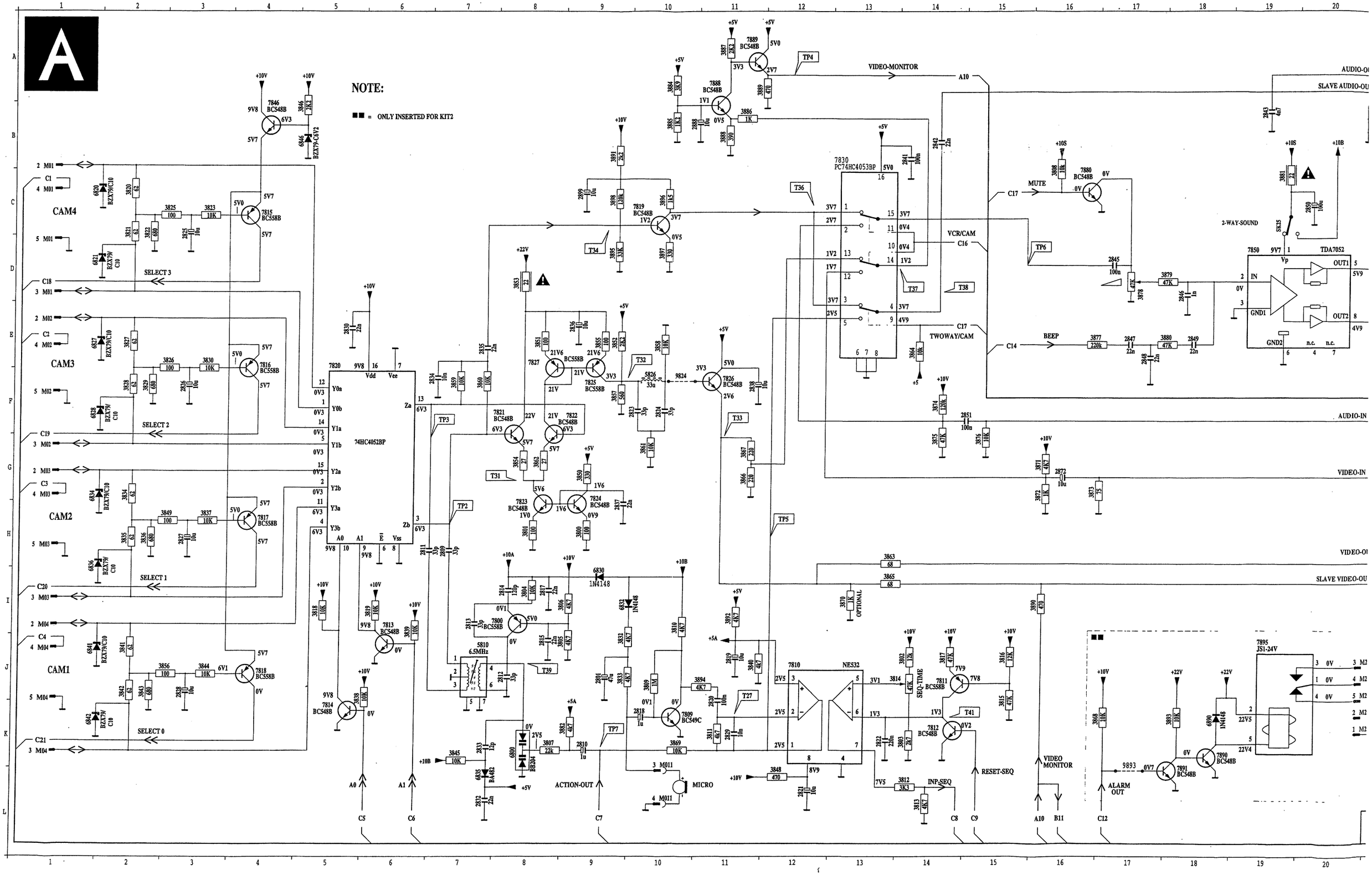
Source selection / Audio amplifier / Alarm out



Source selection / Audio amplifier / Alarm out

A

VIDEO-MONITOR
AUDIO-OUT
SLAVE AUDIO-OUT
4M60
7M60
9M60
3M60
6M60
AUDIO-IN
1M60
VIDEO-IN
2M60
VIDEO-OUT
8M60
SLAVE VIDEO-OUT
5M60
25 OHM SPEAKER
MUTE
2-WAY-SOUND
VCR/CAM
TWOWAY/CAM
BEEP
VIDEO MONITOR
ALARM OUT
RESET-SEQ
INP-SEQ
MICRO
OPTIONAL
SEQ-TIME
TDA7052
NE532
7830 PC74HC4053BP
7895 JS1-24V

2801	J 9	3897	D10
2809	H 7	3898	C 9
2810	K 9	5810	J 7
2811	H 6	5826	F10
2812	J 8	6800	K 8
2813	I 7	6820	C 1
2814	I 8	6821	D 1
2815	J 8	6827	E 1
2817	I 8	6828	F 1
2818	K10	6830	I 9
2819	J11	6832	I 9
2820	J11	6834	G 1
2821	L12	6835	L 7
2822	K13	6836	H 1
2823	F10	6841	J 1
2824	F10	6842	K 1
2825	C 3	6846	B 5
2826	F 3	6890	K18
2827	H 3	7800	I 8
2828	J 3	7809	K10
2829	K11	7810	J12
2830	E 5	7811	J14
2832	L 7	7812	K14
2833	K 7	7813	I 6
2834	F 7	7814	K 5
2835	E 7	7815	C 4
2836	E 9	7816	E 4
2837	H 9	7817	H 4
2838	F11	7818	J 4
2841	B14	7819	C 9
2842	B14	7820	E 5
2843	B19	7821	E 7
2845	D17	7822	F 9
2846	D18	7823	H 8
2847	E17	7824	G 9
2848	E17	7825	F 9
2849	E18	7826	F11
2850	C20	7827	E 8
2851	F15	7830	B12
2872	G16	7846	B 4
2888	B10	7850	D19
2899	C 9	7880	C16
3800	H 9	7888	A11
3801	H 8	7889	A11
3802	J14	7890	K18
3803	K14	7891	L18
3804	I 8	7895	J19
3805	J 9	9824	F10
3806	I 9	9893	K17
3807	K 8	M01	D 1
3808	B16	M01	C 1
3809	J10	M01	B 1
3810	I10	M01	D 1
3811	K11	M011	D21
3812	L14	M011	E21
3813	L14	M011	K10
3814	J14	M011	L10
3815	J15	M02	B 1
3816	J15	M02	F 1
3817	J14	M02	G 1
3818	I 5	M02	G 1
3819	I 6	M03	G 1
3820	C 2	M03	G 1
3821	C 2	M03	H 1
3822	C 2	M03	I 1
3823	C 2	M04	I 1
3825	C 3	M04	J 1
3826	B 3	M04	J 1
3827	B 2	M04	K 1
3828	F 2	M25	K20
3829	F 2	M25	K20
3830	B 3	M25	J20
3832	J 9	M25	J20
3833	J 9	M25	J20
3834	G 2	M60	F21
3835	H 2	M60	G21
3836	H 2	M60	B21
3837	H 3	M60	A21
3838	J 5	M60	I21
3839	I 6	M60	B21
3840	J11	M60	A21
3841	J 2	M60	H21
3842	J 2	M60	B21
3843	J 2	SK25	C19
3844	J 2		
3845	F 7		
3846	B 5		
3848	L12		
3849	H 3		
3850	G 9		
3851	F 8		
3852	B 9		
3853	D 8		
3854	G 8		
3855	B 9		
3856	F 3		
3857	F 9		
3858	B10		
3859	F 7		
3860	F 7		
3861	G10		
3862	G 8		
3863	H13		
3864	E14		
3865	I13		
3866	G11		
3867	G11		
3868	K17		
3869	K10		
3870	I13		
3871	G16		
3872	G16		
3873	G16		
3874	F14		
3875	G14		
3876	G15		
3877	E16		
3878	D17		
3879	D18		
3880	E18		
3881	C19		
3882	K 9		
3884	A10		
3885	B10		
3886	B11		
3887	A11		
3888	B11		
3889	A11		
3890	I16		
3891	B 9		
3892	I11		
3893	K18		
3894	J11		
3895	D 9		
3896	C10		

VM8
VM8_ASCH.EPS
110995

B

✳ = SYSTEM ONLY

POS NR	KIT	SYSTEM
3412	100k	82k
3414	--	47K
9414	YES	NO

Picture / Deflection / CRT

B

+18V +18V +18V +18V +10V

1n 3515 8K2 3520 15K 6520 1N4148 3522 8K2 3528 15 2528 47u 3526 1K2 3527 220

10V0 2520 6n8 2521 220p 3525 1K2 3516 6K8 3521 3K9

7515 BC558B 8V8 T12 T13 7520 BC558B 8V8 8V1 1V5 T14 7525 BC548 0V4 6526 1N4148 T15 7526 BC548 7V4 3V0 2V9 2525 47u 3530 470 T16 7530 BU806 22V3 0V9

T17 5540 LOT EHT 2531 3n9 T30 2530 20n 6530 BYD33G

HOR. 100H 9560 5560 RES 2560 RES 3560 RES

+22S 2540 100u 3545 390 +18V 6545 BZX79-C18 2545 100u

3550 15 6550 BAV21 +110V 2551 4u7

+110V 3531 6k8 6531 BAV21 G2 2715 100n 3716 470k 3715 15K 5 G2 3710 15K 4 G1 3302 470K 6302 1N4148 2710 47n +10S 3 2 1 CATH. 2301 10u/63V 6301 BZX79-C33 3301 150K

1002 A31-332W V H 1 V001 2 H001 2 1 8 9 10 11

+110V +22S 3431 27k 22V4 16V3 7430 BC635 15V8 T23 6432 1N4148 3433 4R7 15V7 7425 BC636 T22 3432 180 T21 7420 BC548C 0V6 15V2 T20 7417 BC558B 0V6 2V0 2V6 3417 10k 3415 22k 3416 39k 2416 2n2 3418 430 3420 47k 2418 220p 2432 3n3 3436 4R7 2435 2200u 3435 1k8 3437 6k2 3438 5k6 2436 10u 1 V001 2 VERT. TV T-LIN

VIDEO MONITOR 2305 100u 3306 1K 3307 1K 3308 560 +10S +110V 3700 10K 2703 RES 3701 1K5 T25 3V3 2700 150n T24 BF422 7700 3310 150 0V1 2V9 6700 BAV21 3702 470K 3311 220 V-BL 6310 1N4148 H-BL 3709 22k 6709 BAV21 3706 1k2 2706 1n 3708 330 A11

VM8 VM8_BSCH.EPS 110995

A

7 8 9 10 11 12 13 14 15 16 17 18 19 20

2301	E15	3700	G15	3545	E13
2305	G13	3701	G15	3550	C14
2316	D 1	3702	H15	3560	E12
2317	D 2	3706	I14		
2319	D 2	3708	I15		
2320	D 3	3709	I13		
2400	G 3	3710	E16		
2401	G 4	3715	E16		
2402	F 4	3716	D16		
2403	G 4	5540	A13		
2410	H 5	5560	D12		
2411	H 5	6301	E15		
2412	G 6	6302	F15		
2416	H 7	6310	H13		
2418	H 8	6432	F 9		
2432	G 9	6502	D 5		
2435	F10	6503	E 5		
2436	G10	6512	B 6		
2500	D 4	6513	B 6		
2501	D 4	6520	B 7		
2502	E 4	6526	C10		
2503	E 5	6530	B13		
2507	D 5	6531	D16		
2509	D 6	6545	E13		
2513	B 7	6550	C15		
2520	B 8	6700	H15		
2521	C 8	6709	I14		
2525	C10	7320	D 3		
2528	B 9	7405	G 4		
2530	B12	7410	G 5		
2531	B12	7415	F 6		
2540	E14	7417	G 7		
2545	E14	7420	G 9		
2551	C15	7425	G10		
2560	D12	7430	F10		
2700	G15	7510	C 6		
2703	G15	7515	C 7		
2706	I14	7520	C 8		
2710	F16	7525	C 9		
2715	D16	7526	B10		
3301	E15	7530	B10		
3302	E15	7700	H15		
3306	G13	9414	H 6		
3307	G14	9560	D11		
3308	G14	H001	C12		
3310	H14	V001	F11		
3311	H14				
3316	D 1				
3318	D 2				
3319	D 2				
3320	C 3				
3400	F 3				
3401	F 3				
3402	G 5				
3403	F 4				
3405	F 5				
3406	H 4				
3407	H 4				
3408	H 4				
3409	F 6				
3410	H 4				
3411	F 6				
3412	G 6				
3413	F 7				
3414	H 6				
3415	G 7				
3416	H 7				
3417	G 7				
3418	G 8				
3420	G 8				
3431	F 9				
3432	G 9				
3433	F 9				
3435	F11				
3436	G10				
3437	G11				
3438	G10				
3500	D 3				
3501	E 4				
3502	D 4				
3503	E 4				
3504	E 5				
3507	D 5				
3509	D 5				
3510	D 6				
3511	C 6				
3512	C 6				
3513	B 6				
3515	B 7				
3516	D 7				
3520	B 7				
3521	D 8				
3522	B 8				
3525	C 9				
3526	B 9				
3527	B10				
3528	A 9				
3530	C10				
3531	C16				

NOTE:

■■ = ONLY INSERTED FOR KIT2

■ = ONLY INSERTED FOR KIT 1

M101 1100 T1A 3103 NTC-20R 3104 470K 2100 330n 5100 6102 S1NB80 2105 10 47n 3106 47K

5130 T6 2160 470p 6160 BYD74C 5160 100u 2161 10 1000u 2162 10 220u 6180 BT151 6181 BZX79/C27 3180 220 +22V 9183 22V5

3175 1k 3181 470k 7175 BSN10A 6175 BZX79/C10 2180 10 10u 3179 1k

0V BC558B 7195 22V5 3197 680 3198 2R2 VCAM 1 A4

0V BC558B 7190 22V5 3192 680 3193 2R2 VCAM 2 A3

0V BC558B 7185 22V5 3187 680 3188 2R2 VCAM 3 A2

0V BC558B 7180 22V5 3182 680 3183 2R2 VCAM 4 A1

3535 1k 21V8 7535 BD434 22V4 +22S

3533 1k 0V1 7536 BC548B 6536 BZX79/C6V2 0V8 2137 10 100u 3537 4K7 3536 4K7

T5 6108 BYD33G 295V 7130 1V 295V 40V MTP3N60 2133 100p 6131 BYD14G 6130 BYD14G

T1 6110 1N4148 3134 15 3135 180 3131 2K2 2106 2n2

T2 3114 330 2136 470p 3132 1

T7 2149 470p 6140 BYD33G 5141 100u 2140 220u 2141 10 220u +10V SK50 STAND-BY +10S +10V +5V

3150 10 9V1 7150 L78M05 5V 2150 22n 2151 10 10u +5V

TP3 TP1 2110 22N 3110 2K7 2111 22N 2112 47n 7110 UC384XN 5V 15V 2V1 2V8 2V3 1V4 0V 3113 150K 3118 18k 3117 10K 22V-ADJ. 2118 10 1u 2113 1N 2114 1N 2115 10 1u 3116 4K7 6118 1N4148 3108 3R3 2132 RES

6119 BYD14G 6121 BYD14G 3121 22k 7121 BC548B 0V 0V 3105 33k 9105

2134 2n2 2135 2n2

MS01 1 A 2 +22V 3 4 B 5 Vcam4 6 +10V

SK3 +10S ACTION +10A 6831 1N4148 3960 4k7 3961 4k7

A21 A20 A19 A18 SELECT 0 SELECT 1 SELECT 2 SELECT 3 +5V 3954 4k7 2901 22n 3947 2K2 3946 2K2 3945 2K2 3944 2K2 3950 4K7 3951 4K7 3952 4K7 3953 4K7

7875 5V0 40 VCC

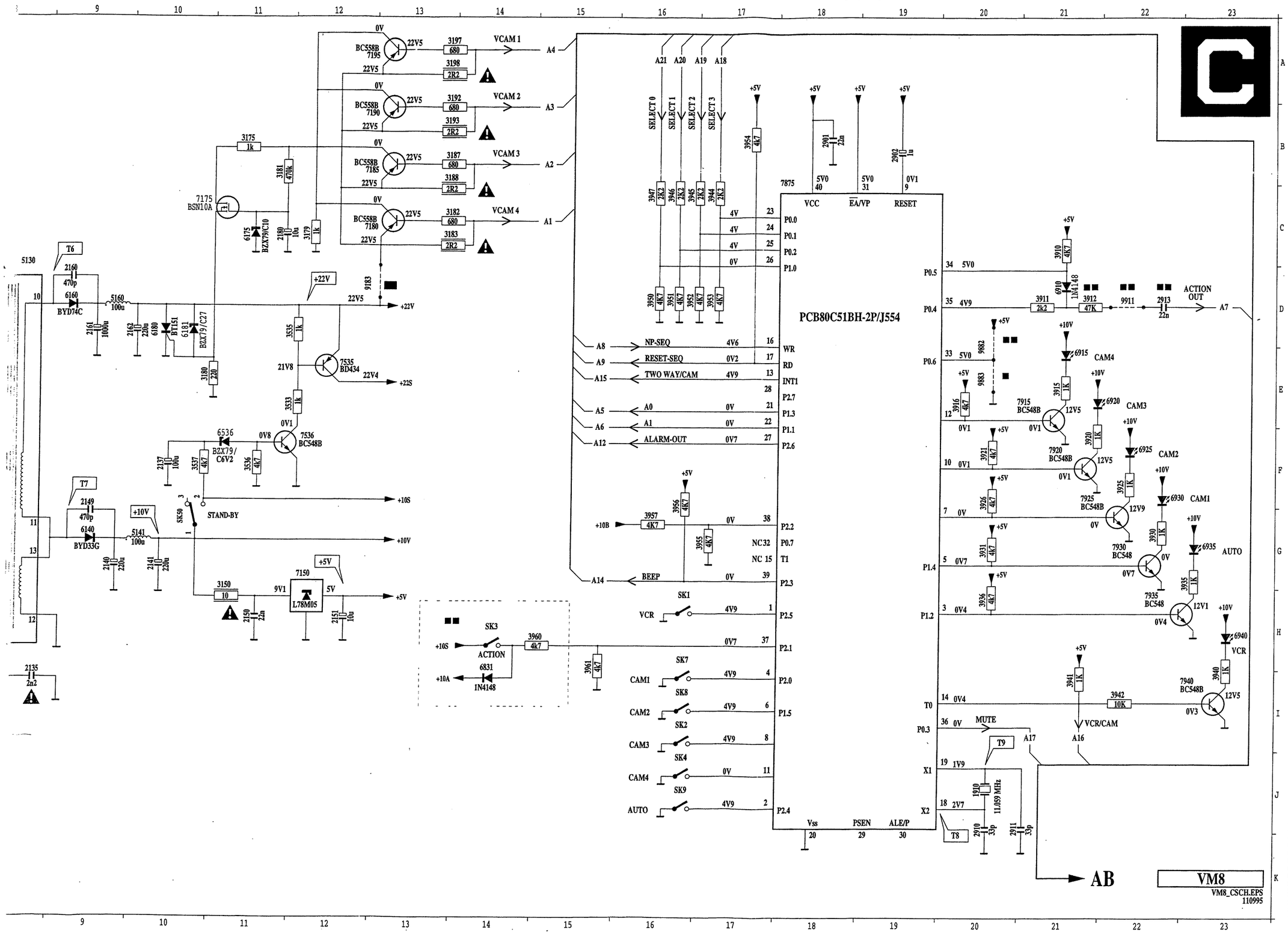
A8 NP-SEQ 4V6 16 WR
A9 RESET-SEQ 0V2 17 RD
A15 TWO WAY/CAM 4V9 13 INT1
28 P2.7
A5 A0 0V 21 P1.3
A6 A1 0V 22 P1.1
A12 ALARM-OUT 0V7 27 P2.6

PCB80C5

+5V 3956 4K7 +10B 3957 4K7 0V 38 P2.2
3955 4K7 NC32 P0.7 NC 15 T1
A14 BEEP 0V 39 P2.3

SK1 VCR 4V9 1 P2.5
0V7 37 P2.1
SK7 CAM1 4V9 4 P2.0
SK8 CAM2 4V9 6 P1.5
SK2 CAM3 4V9 8
SK4 CAM4 0V 11
SK9 AUTO 4V9 2 P2.4
Vss 20

Power supply / controls



1100	D 2	6930	F22
1910	J20	6935	G23
2100	C 3	6940	H23
2105	D 6	7110	F 4
2106	F 6	7121	I 6
2110	F 3	7130	E 6
2111	F 3	7150	G12
2112	G 3	7175	C10
2113	G 4	7180	C13
2114	G 4	7185	B13
2115	H 3	7190	B13
2118	G 5	7195	A13
2132	G 6	7535	E12
2133	E 7	7536	F12
2134	I 8	7915	E20
2135	I 8	7920	F21
2136	G 5	7925	F21
2137	F10	7930	G22
2140	G 9	7935	H22
2141	G10	7940	I22
2145	F 9	9105	J 7
2150	H11	9183	D12
2151	H12	9882	D20
2160	D 9	9883	E20
2161	D 9	9911	D22
2162	D 9	M101	C 1
2180	C11	MS01	I 1
2901	B18	SK1	H16
2902	B19	SK2	I16
2910	J20	SK3	H14
2911	J20	SK4	J16
2913	D22	SK50	G10
3103	D 2	SK7	H16
3104	C 2	SK8	I16
3105	J 7	SK9	J16
3106	D 6		
3108	G 7		
3110	E 3		
3113	G 5		
3114	E 4		
3116	H 4		
3117	G 5		
3118	G 5		
3121	I 6		
3131	F 6		
3132	G 7		
3134	E 6		
3135	E 5		
3150	G11		
3175	B11		
3179	C12		
3180	E10		
3181	B11		
3182	C13		
3183	C13		
3187	B13		
3188	B13		
3192	A13		
3193	B13		
3197	A13		
3198	A13		
3533	E11		
3535	D11		
3536	F11		
3537	F10		
3910	C21		
3911	D21		
3912	D21		
3915	E21		
3916	E20		
3920	F21		
3921	F20		
3925	F22		
3926	F20		
3930	G22		
3931	G20		
3935	G23		
3936	H20		
3940	H23		
3941	I21		
3942	I22		
3944	C17		
3945	C16		
3946	C16		
3947	C16		
3950	D16		
3951	D16		
3952	D16		
3953	D17		
3954	B17		
3955	G17		
3956	F16		
3957	G16		
3960	H15		
3961	H15		
5100	C 3		
5130	C 8		
5141	G10		
5160	D 9		
6102	K 1		
6108	E 7		
6110	E 5		
6118	G 6		
6119	H 7		
6121	I 7		
6130	G 7		
6131	F 7		
6140	G 9		
6160	D 9		
6175	C11		
6180	D10		
6181	D10		
6536	F11		
6831	H14		
6910	D21		
6915	E21		
6920	E22		
6925	F22		

Spare parts lists

Various

SK1-8	4822 276 13269	Switches
SK25	4822 276 13554	Switch
SK50	4822 276 11237	Stand-by
M101	4822 290 60626	2 Pins female (mains)
M101	4822 265 20723	2 Pins male (mains)
M01-04		
	5322 290 81395	Telephone jack
M011	4822 265 30378	4 Pins male (BTB-WTB)
M011	4822 265 50824	4 Pins female (BTB-WTB)
M25	4822 267 41182	6 Pins female
M60	4822 267 41179	Screw block
	4822 255 41346	Led holder (22MS855R)
	4822 255 41347	Led holder
	4822 320 20215	EHT cable
1001	5322 240 30587	Speaker
1002	4822 131 20473	CRT
	4822 255 70167	CRT socket
1002	4822 242 30176	Microphone
1100	4822 070 31002	Fuse 1AT
	4822 492 60063	Spring for fuse
1910	4822 242 81965	Resonator 11 MHz

⊣⊢

2100	4822 121 70677	330nF 20% 275V
2105	4822 124 22491	47µF 30% 385V
2106	4822 122 33802	2.2nF 10% 1KV
2110	4822 121 51305	15nF 10% 50V
2111	4822 122 40606	22nF 80% 50V
2112	4822 124 40433	47µF 20% 25V
2113	4822 122 33302	1nF 5% 50V
2114	4822 122 33302	1nF 5% 50V
2115	4822 124 40756	1µF 20% 100V
2118	4822 124 40756	1µF 20% 100V
2133	4822 126 13682	100pF 5% 1KV
2134	4822 122 32576	2.2nF 400V
2135	4822 122 32576	2.2nF 400V
2136	4822 126 10334	470pF 10% 50V
2137	4822 124 41525	100µF 20% 25V
2140	4822 124 22263	220µF 20% 25V
2141	4822 124 22263	220µF 20% 25V
2149	4822 122 33646	470pF 10% 500V
2150	4822 122 40606	22nF 80% 50V
2151	4822 124 40248	10µF 20% 63V
2160	4822 122 33646	470pF 10% 500V
2161	5322 124 41468	1000µF 20% 40V
2162	4822 124 22263	220µF 20% 25V
2180	4822 124 40248	10µF 20% 63V
2301	5322 124 40641	10µF 20% 100V
2305	4822 124 41525	100µF 20% 25V
2317	4822 124 40756	1µF 20% 100V
2319	4822 122 40606	22nF 80% 50V
2320	4822 124 40248	10µF 20% 63V
2400	4822 122 33307	10nF 5% 50V
2401	4822 122 33307	10nF 5% 50V
2402	4822 126 11134	5.6nF 10% 50V
2403	4822 122 33532	3.3nF 5% 50V
2410	4822 121 41857	10nF 5% 250V
2411	4822 121 42408	220nF 5% 63V
2412	4822 121 42408	220nF 5% 63V
2416	4822 122 33531	2.2nF 10% 50V
2418	4822 122 33299	220pF 5% 50V
2432	4822 122 33532	3.3nF 5% 50V
2435	4822 124 21511	2200µF 20% 25V
2436	4822 124 40248	10µF 20% 63V
2500	4822 126 13462	4.7nF 20% 50V
2501	4822 126 13462	4.7nF 20% 50V
2502	4822 126 13461	680pF 10% 50V
2503	4822 121 51305	15nF 10% 50V
2507	4822 122 33307	10nF 5% 50V
2509	4822 124 40769	4.7µF 20% 100V
2513	4822 122 33302	1nF 5% 50V
2520	4822 121 43101	6.8nF 1% 63V
2521	4822 122 33299	220pF 5% 50V
2525	4822 124 40433	47µF 20% 25V
2528	4822 124 40433	47µF 20% 25V
2530	4822 121 70546	20nF 5% 630V
2531	4822 121 42034	3.3µF 10% 100V
2540	4822 124 41525	100µF 20% 25V
2545	4822 124 41525	100µF 20% 25V
2551	4822 124 80676	4.7µF 20% 160V
2700	5322 121 42925	150nF 10% 100V
2706	4822 122 33302	1nF 5% 50V
2710	4822 121 43526	47nF 5% 250V
2715	4822 121 41689	100nF 10% 250V
2801	4822 124 40433	47µF 20% 25V
2809	4822 126 13378	33pF 5% 50V
2810	4822 124 40756	1µF 20% 100V
2811	4822 126 13378	33pF 5% 50V
2812	4822 126 13375	33pF 5% 50V
2813	4822 126 13375	33pF 5% 50V
2814	4822 126 13376	120pF 5% 50V
2815	4822 122 40606	22nF 80% 50V
2817	4822 122 40606	22nF 80% 50V
2818	4822 124 40756	1µF 20% 100V
2819	4822 124 40248	10µF 20% 63V
2820	4822 121 42007	100nF 10% 100V
2821	4822 124 40248	10µF 20% 63V
2822	4822 121 42408	220nF 5% 63V
2823	4822 126 13378	33pF 5% 50V
2824	4822 126 13378	33pF 5% 50V
2825	4822 124 40248	10µF 20% 63V
2826	4822 124 40248	10µF 20% 63V
2827	4822 124 40248	10µF 20% 63V
2828	4822 124 40248	10µF 20% 63V
2829	4822 122 33307	10nF 5% 50V
2830	4822 122 40606	22nF 80% 50V
2832	4822 122 40606	22nF 80% 50V
2833	4822 126 12825	12pF 5% 50V
2834	4822 122 33307	10nF 5% 50V
2835	4822 122 40606	22nF 80% 50V
2836	4822 124 40248	10µF 20% 63V
2837	4822 122 40606	22nF 80% 50V
2838	4822 124 40248	10µF 20% 63V
2841	4822 121 42007	100nF 10% 100V
2842	4822 122 40606	22nF 80% 50V
2843	4822 126 13462	4.7nF 20% 50V
2845	4822 121 42007	100nF 10% 100V
2846	4822 126 13462	4.7nF 20% 50V
2848	4822 122 40606	22nF 80% 50V
2849	4822 122 40606	22nF 80% 50V
2850	4822 124 41525	100µF 20% 25V
2851	4822 121 42007	100nF 10% 100V
2872	4822 124 40248	10µF 20% 63V
2888	4822 124 40248	10µF 20% 63V
2899	4822 124 40248	10µF 20% 63V
2901	4822 122 40606	22nF 80% 50V
2902	4822 124 40242	1µF 20% 63V
2910	4822 126 13378	33pF 5% 50V
2911	4822 126 13378	33pF 5% 50V
2913	4822 122 40606	22nF 80% 50V

⊏⊐

3103	4822 116 30478	20Ω 20% 2W
3104	4822 053 20474	470k 5% 0.25W
3105	4822 117 11488	33k 5% 3W
3106	4822 053 11473	47k 5% 2W
3108	4822 052 10338	3Ω3 5% 0.33W
3110	4822 116 52263	2k7 5% 0.5W
3113	4822 116 52245	150k 5% 0.5W
3114	4822 116 52219	330Ω 5% 0.5W
3116	4822 116 52283	4k7 5% 0.5W
3117	4822 100 20166	10k Potmeter
3118	4822 116 52251	18k 5% 0.5W
3121	4822 116 52257	22k 5% 0.5W
3131	4822 116 52256	2k2 5% 0.5W
3132	4822 116 80176	1Ω 5% 0.5W
3134	4822 116 52182	15Ω 5% 0.5W
3135	4822 116 52213	180Ω 5% 0.5W
3150	4822 052 10109	10Ω 5% 0.33W
3175	4822 050 11002	1k 1% 0.4W
3179	4822 050 11002	1k 1% 0.4W
3180	4822 116 52215	220Ω 5% 0.5W
3181	4822 116 52285	470k 5% 0.5W
3182	4822 116 52228	680Ω 5% 0.5W
3183	4822 052 10228	2Ω2 5% 0.33W
3187	4822 116 52228	680Ω 5% 0.5W
3188	4822 052 10228	2Ω2 5% 0.33W
3192	4822 116 52228	680Ω 5% 0.5W
3193	4822 052 10228	2Ω2 5% 0.33W
3197	4822 116 52228	680Ω 5% 0.5W
3198	4822 052 10228	2Ω2 5% 0.33W
3301	4822 116 52245	150k 5% 0.5W
3302	4822 100 20889	470k Potmeter
3306	4822 100 20888	1k Potmeter
3307	4822 050 11002	1k 1% 0.4W
3308	4822 116 52226	560Ω 5% 0.5W
3310	4822 116 52211	150Ω 5% 0.5W
3311	4822 116 52215	220Ω 5% 0.5W
3316	4822 116 52224	470Ω 5% 0.5W
3318	4822 116 52235	1M 5% 0.5W
3319	4822 116 52256	2k2 5% 0.5W
3320	4822 050 11002	1k 1% 0.4W
3401	4822 116 52244	15k 5% 0.5W
3402	4822 116 52234	100k 5% 0.5W
3403	4822 116 52234	100k 5% 0.5W
3405	4822 116 52257	22k 5% 0.5W
3406	4822 116 52257	22k 5% 0.5W
3407	4822 100 11141	10k Potmeter
3408	4822 116 52271	33k 5% 0.5W
3409	4822 116 52271	33k 5% 0.5W
3410	4822 116 83864	10k 5% 0.5W
3411	4822 116 52284	47k 5% 0.5W
3412	4822 116 52291	56k 5% 0.5W
3413	4822 116 52291	56k 5% 0.5W
3415	4822 100 11585	22k Potmeter
3416	4822 116 83882	39k 5% 0.5W
3417	4822 116 83864	10k 5% 0.5W
3418	4822 116 52223	430Ω 5% 0.5W
3420	4822 116 52284	47k 5% 0.5W
3431	4822 116 52264	27k 5% 0.5W
3432	4822 116 52213	180Ω 5% 0.5W
3433	4822 052 10478	4Ω7 5% 0.33W
3435	4822 116 52249	1k8 5% 0.5W
3436	4822 050 24708	4Ω7 1% 0.6W
3437	4822 116 52293	6k2 5% 0.5W
3438	4822 116 52289	5k6 5% 0.5W
3500	4822 050 11002	1k 1% 0.4W
3501	4822 116 83864	10k 5% 0.5W
3502	4822 116 52245	150k 5% 0.5W
3503	4822 116 52245	150k 5% 0.5W
3504	4822 116 83864	10k 5% 0.5W
3507	4822 116 83864	10k 5% 0.5W
3509	4822 116 52269	3k3 5% 0.5W
3510	4822 116 52226	560Ω 5% 0.5W
3511	4822 116 52269	3k3 5% 0.5W
3512	4822 100 11391	330Ω Potmeter
3513	4822 116 52256	2k2 5% 0.5W
3515	4822 116 52303	8k2 5% 0.5W
3516	4822 116 52296	6k8 5% 0.5W
3520	4822 116 52244	15k 5% 0.5W
3521	4822 116 52276	3k9 5% 0.5W
3522	4822 116 52303	8k2 5% 0.5W
3525	4822 116 52207	1k2 5% 0.5W
3526	4822 116 52207	1k2 5% 0.5W
3527	4822 116 52215	220Ω 5% 0.5W
3528	4822 052 10159	15Ω 5% 0.33W
3530	4822 116 52224	470Ω 5% 0.5W
3531	4822 116 52296	6k8 5% 0.5W
3533	4822 053 10102	1k 5% 1W
3535	4822 050 11002	1k 1% 0.4W
3536	4822 116 52283	4k7 5% 0.5W
3537	4822 116 52283	4k7 5% 0.5W
3545	4822 052 10391	390Ω 5% 0.33W
3550	4822 052 10159	15Ω 5% 0.33W
3700	4822 053 10103	10k 5% 1W
3701	4822 050 21502	1k5 1% 0.6W
3702	4822 116 52285	470k 5% 0.5W
3706	4822 116 52207	1k2 5% 0.5W
3708	4822 116 52219	330Ω 5% 0.5W
3709	4822 050 22203	22k 1% 0.6W
3710	4822 050 11503	15k 1% 0.4W
3715	4822 116 52244	15k 5% 0.5W
3716	4822 116 52285	470k 5% 0.5W
3800	4822 116 52175	100Ω 5% 0.5W
3801	4822 116 52175	100Ω 5% 0.5W
3802	4822 116 52238	12k 5% 0.5W
3803	4822 116 52263	2k7 5% 0.5W
3804	4822 116 83864	10k 5% 0.5W
3805	4822 116 52283	4k7 5% 0.5W
3806	4822 116 52283	4k7 5% 0.5W
3807	4822 116 52257	22k 5% 0.5W
3808	4822 116 83864	10k 5% 0.5W
3809	4822 116 52235	1M 5% 0.5W
3810	4822 116 52283	4k7 5% 0.5W
3811	4822 116 52283	4k7 5% 0.5W
3812	4822 116 52269	3k3 5% 0.5W
3813	4822 116 52283	4k7 5% 0.5W
3814	4822 100 20887	47k Potmeter
3815	4822 116 52284	47k 5% 0.5W
3816	4822 116 52238	12k 5% 0.5W
3817	4822 116 52284	47k 5% 0.5W
3818	4822 116 83864	10k 5% 0.5W
3819	4822 116 83864	10k 5% 0.5W
3820	4822 117 11487	62Ω 1% 0.4W
3821	4822 117 11487	62Ω 1% 0.4W
3822	4822 116 52228	680Ω 5% 0.5W
3823	4822 116 83864	10k 5% 0.5W
3825	4822 116 52175	100Ω 5% 0.5W
3826	4822 116 52175	100Ω 5% 0.5W
3827	4822 117 11487	62Ω 1% 0.4W
3828	4822 117 11487	62Ω 1% 0.4W
3829	4822 116 52228	680Ω 5% 0.5W
3830	4822 116 83864	10k 5% 0.5W
3832	4822 116 52283	4k7 5% 0.5W
3833	4822 116 52283	4k7 5% 0.5W
3834	4822 117 11487	62Ω 1% 0.4W
3835	4822 117 11487	62Ω 1% 0.4W
3836	4822 116 52228	680Ω 5% 0.5W
3837	4822 116 83864	10k 5% 0.5W
3838	4822 116 83864	10k 5% 0.5W
3839	4822 116 83864	10k 5% 0.5W
3840	4822 116 52283	4k7 5% 0.5W
3841	4822 117 11487	62Ω 1% 0.4W
3842	4822 117 11487	62Ω 1% 0.4W
3843	4822 116 52228	680Ω 5% 0.5W
3844	4822 116 83864	10k 5% 0.5W
3845	4822 116 83864	10k 5% 0.5W
3864	4822 116 83864	10k 5% 0.5W
3846	4822 116 52269	3k3 5% 0.5W
3848	4822 050 24701	470Ω 1% 0.6W
3849	4822 116 52175	100Ω 5% 0.5W
3850	4822 116 52219	330Ω 5% 0.5W
3851	4822 116 52175	100Ω 5% 0.5W
3852	4822 116 52256	2k2 5% 0.5W
3853	4822 052 10229	22Ω 5% 0.33W
3854	4822 050 12709	27Ω 1% 0.4W
3855	4822 116 52175	100Ω 5% 0.5W
3856	4822 116 52175	100Ω 5% 0.5W
3857	4822 116 52226	560Ω 5% 0.5W
3858	4822 116 83864	10k 5% 0.5W
3859	4822 116 83864	10k 5% 0.5W
3860	4822 116 83864	10k 5% 0.5W
3861	4822 116 83864	10k 5% 0.5W
3862	4822 050 12709	27Ω 1% 0.4W
3863	4822 116 52199	68Ω 5% 0.5W
3864	4822 116 83864	10k 5% 0.5W
3865	4822 116 52199	68Ω 5% 0.5W
3866	4822 116 52215	220Ω 5% 0.5W
3867	4822 116 52215	220Ω 5% 0.5W
3868	4822 116 83864	10k 5% 0.5W
3869	4822 116 83864	10k 5% 0.5W
3871	4822 116 52283	4k7 5% 0.5W
3872	4822 050 11002	1k 1% 0.4W
3873	4822 116 52201	75Ω 5% 0.5W
3874	4822 116 52239	120k 5% 0.5W
3875	4822 116 52284	47k 5% 0.5W
3876	4822 116 83864	10k 5% 0.5W
3877	4822 116 83874	220k 5% 0.5W
3878	4822 100 30194	47k Potmeter
3879	4822 116 83864	10k 5% 0.5W
3880	4822 116 52284	47k 5% 0.5W
3881	4822 052 10229	22Ω 5% 0.33W
3882	4822 116 52283	4k7 5% 0.5W
3884	4822 116 52276	3k9 5% 0.5W
3885	4822 116 52207	1k2 5% 0.5W
3886	4822 050 11002	1k 1% 0.4W

3887	4822 116 52256	2k2 5% 0.5W
3888	4822 116 52222	390Ω 5% 0.5W
3889	4822 116 52224	470Ω 5% 0.5W
3891	4822 116 52256	2k2 5% 0.5W
3892	4822 116 52283	4k7 5% 0.5W
3893	4822 116 83864	10k 5% 0.5W
3894	4822 116 52283	4k7 5% 0.5W
3895	4822 116 52271	33k 5% 0.5W
3896	4822 116 52243	1k5 5% 0.5W
3897	4822 116 52219	330Ω 5% 0.5W
3898	4822 116 52239	120k 5% 0.5W
3910	4822 116 52283	4k7 5% 0.5W
3911	4822 116 52256	2k2 5% 0.5W
3912	4822 116 52257	22k 5% 0.5W
3915	4822 050 11002	1k 1% 0.4W
3916	4822 116 52283	4k7 5% 0.5W
3920	4822 050 11002	1k 1% 0.4W
3921	4822 116 52283	4k7 5% 0.5W
3925	4822 050 11002	1k 1% 0.4W
3926	4822 116 52283	4k7 5% 0.5W
3930	4822 050 11002	1k 1% 0.4W
3931	4822 116 52283	4k7 5% 0.5W
3935	4822 050 11002	1k 1% 0.4W
3936	4822 116 52283	4k7 5% 0.5W
3940	4822 050 11002	1k 1% 0.4W
3941	4822 050 11002	1k 1% 0.4W
3942	4822 116 83864	10k 5% 0.5W
3944	4822 116 52256	2k2 5% 0.5W
3945	4822 116 52256	2k2 5% 0.5W
3946	4822 116 52256	2k2 5% 0.5W
3947	4822 116 52256	2k2 5% 0.5W
3950	4822 116 52283	4k7 5% 0.5W
3951	4822 116 52283	4k7 5% 0.5W
3952	4822 116 52283	4k7 5% 0.5W
3953	4822 116 52283	4k7 5% 0.5W
3954	4822 116 52283	4k7 5% 0.5W
3955	4822 116 52283	4k7 5% 0.5W
3956	4822 116 52283	4k7 5% 0.5W
3957	4822 116 52283	4k7 5% 0.5W
3960	4822 116 52284	47k 5% 0.5W
3961	4822 116 52284	47k 5% 0.5W

5100	4822 157 53348	Coil, choke
5130	4822 146 31412	Transf, mains
5141	4822 157 60286	Coil
5160	4822 157 60286	Coil
5540	4822 140 10354	Transf, line
5810	4822 157 71342	Coil
5826	4822 156 20915	33µH

6102	4822 130 83707	S1NB80
6108	4822 130 42489	BYD33G
6110	4822 130 30621	1N4148
6118	4822 130 30621	1N4148
6119	4822 130 30621	1N4148
6121	4822 130 30621	1N4148
6130	4822 130 82985	BYD14G
6131	4822 130 82985	BYD14G
6140	4822 130 42489	BYD33G
6160	4822 130 80915	BYD74C
6175	4822 130 61219	BZX79-B10
6180	5322 130 24081	BT151-500R
6181	4822 130 34379	BZX79-C27
6301	4822 130 34142	BZX79-C33
6302	4822 130 30621	1N4148
6310	4822 130 30621	1N4148
6432	4822 130 30621	1N4148
6502	4822 130 30621	1N4148
6503	4822 130 30621	1N4148
6512	4822 130 30621	1N4148
6513	4822 130 30621	1N4148
6520	4822 130 30621	1N4148
6526	4822 130 30621	1N4148
6530	4822 130 42489	BYD33G
6531	4822 130 30842	BAV21
6536	4822 130 34167	BZX79-B6V2
6545	4822 130 31024	BZX79-C18
6550	4822 130 30842	BAV21
6700	4822 130 30842	BAV21
6709	4822 130 30842	BAV21
6800	5322 130 34825	BB204G
6820	4822 130 61219	BZX79-B10
6821	4822 130 61219	BZX79-B10
6827	4822 130 61219	BZX79-B10
6828	4822 130 61219	BZX79-B10
6830	4822 130 30621	1N4148
6831	4822 130 30621	1N4148
6832	4822 130 30621	1N4148
6834	4822 130 61219	BZX79-B10
6835	5322 130 34955	BA482
6838	4822 130 61219	BZX79-B10
6841	4822 130 61219	BZX79-B10
6842	4822 130 61219	BZX79-B10
6846	4822 130 34167	BZX79-C6V2
6890	4822 130 30621	1N4148
6910	4822 130 30621	1N4148
6915	4822 130 83088	TLHG5405
6920	4822 130 83088	TLHG5405
6925	4822 130 83088	TLHG5405
6930	4822 130 83088	TLHG5405
6935	4822 130 82948	TLHR5401
6940	4822 130 82948	TLHR5401

7110	4822 209 83909	UC3842AN
7121	4822 130 40937	BC548B
7130	4822 130 62753	MTP3N60
7150	5322 209 86445	LM7805CT
7175	4822 130 63365	BSN10A
7180	4822 130 44197	BC558B
7185	4822 130 44197	BC558B
7190	4822 130 44197	BC558B
7195	4822 130 44197	BC558B
7320	4822 130 44197	BC558B
7405	4822 130 44197	BC558B
7410	4822 130 44196	BC548C
7415	4822 130 44197	BC558B
7417	4822 130 44197	BC558B
7420	4822 130 44196	BC548C
7425	4822 130 44283	BC636
7430	5322 130 44349	BC635
7510	4822 130 44197	BC558B
7515	4822 130 44197	BC558B
7520	4822 130 44197	BC558B
7525	4822 130 40937	BC548B
7526	4822 130 40937	BC548B
7530	5322 130 60135	BU806
7535	4822 130 40995	BD434
7536	4822 130 40937	BC548B
7700	4822 130 41782	BF422
7800	4822 130 41448	BF324
7809	4822 130 44246	BC549C
7810	5322 209 61487	LM358N
7811	4822 130 44197	BC558B
7812	4822 130 40937	BC548B
7813	4822 130 40937	BC548B
7814	4822 130 40937	BC548B
7815	4822 130 44197	BC558B
7816	4822 130 44197	BC558B
7817	4822 130 44197	BC558B
7818	4822 130 44197	BC558B
7819	4822 130 40937	BC548B
7820	4822 209 60002	74HC4052N
7821	4822 130 40937	BC548B
7822	4822 130 40937	BC548B
7823	4822 130 40937	BC548B
7824	4822 130 40937	BC548B
7825	4822 130 44197	BC558B
7826	4822 130 40937	BC548B
7827	4822 130 44197	BC558B
7830	5322 209 11296	74HC4053N
7846	4822 130 40937	BC548B
7850	4822 209 60956	TDA7052/N1
7875	4822 209 33972	µ-Processor /J554
7880	4822 130 40937	BC548B
7888	4822 130 40937	BC548B
7889	4822 130 40937	BC548B
7890	4822 130 40937	BC548B
7891	4822 130 40937	BC548B
7895	4822 280 80784	JS1- 24 VOLT
7915	4822 130 40937	BC548B
7920	4822 130 40937	BC548B
7925	4822 130 40937	BC548B
7930	4822 130 40937	BC548B
7935	4822 130 40937	BC548B
7940	4822 130 40937	BC548B